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EXAMINER

ERB, NATHAN

ART UNIT

PAPER NUMBER

3628

MAIL DATE

DELIVERY MODE

02/12/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/697,451	Applicant(s) SATO ET AL.	
	Examiner NATHAN ERB	Art Unit 3628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20080924</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Applicant's response to Office action was received on April 22, 2008.
3. In response to Applicant's amendment of claim 1, the claim rejections under 35 U.S.C. 112, second paragraph, from the previous Office action are hereby withdrawn.
4. In response to Applicant's amendment of the claims, the corresponding prior art rejections of the corresponding claims have been correspondingly amended below in this Office action.
5. Regarding new claim 16, please note the rejection of claim 16 under 35 U.S.C. 112, second paragraph, below in this Office action.
6. Regarding Applicant's arguments with respect to the prior art rejections, Examiner believes that the amendments to the prior art rejections below in this Office action render those arguments to be no longer applicable.

Claim Rejections - 35 USC § 112

7. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As per claim 16, the claim introduces an "equation," yet does not actually present an equation. (There is no equal sign in the mathematical expression presented

in the claim.) Therefore, claim 16 presents a mathematical quantity, but does not explain what this quantity represents. Without this knowledge, it is not clear what value may be calculated using the expression, nor how the expression may be incorporated into an autoregressive moving average model. Therefore, claim 16 is indefinite.

Claim Rejections - 35 USC § 103

8. Claims 1-7, 9-11, and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takriti, U.S. Patent No. 6,021,402 in view of Iino, U.S. Patent No. 5,873,251 and further in view of Olavson et al., U.S. Patent Application Publication No. US 2004/0128261 A1.

9. **As per claim 1**, Takriti '402 discloses in a planning system that makes plans of electric power generation and electric power trade, a computer implemented method for an electric power generating plan and an electrical power trading plan comprising the steps of: providing said electric power generating plan and said electrical power trading plan (Takriti '402: col. 4, lines 58-67 - col. 5, lines 1-19); determining a stochastic distribution of uncertain factors included in an expected balance generated from said electric power generating plan and said electric power trading plan (Takriti '402: col. 4, lines 58-67 - col. 5, lines 1-19), and presenting said stochastic distribution of uncertain factors in a time-series form (Takriti '402: Figures 9A, 9B, and 11),

10. Takriti '402 does not disclose wherein said uncertain factors include prediction errors caused by annulment of said electrical power trading plan; and determining a stochastic distribution based on an autoregressive moving average model of price.

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11. lino discloses wherein said uncertain factors include prediction errors caused by annulment of said electrical power trading plan (lino: col. 14, lines 31-41 – lino discloses in-trouble surplus energy calculating means 48 that calculates the surplus energy conditions which can satisfy conditions that the total electricity generation quantity is larger than the electricity generation demand, which suggests a prediction error.

Furthermore, the phrase “machine troubles” suggest that the power company may be inoperable, which implies that the power company may not be able to fulfill the energy demand recited in an energy-trading plan. If this is the case, it is possible that the energy-trading plan is annulled.).

12. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Takriti ‘402 to have included wherein said uncertain factors include prediction errors caused by annulment of said electrical power trading plan as disclosed by lino for the advantage of providing a system and method that will increase the efficiency of electric power production so as to contribute to the protection of the environment (lino: col. 1, lines 40-42).

13. Takriti ‘402 in view of lino does not disclose determining a stochastic distribution based on an autoregressive moving average model of price.

14. Olavson et al. discloses determining a stochastic distribution based on an autoregressive moving average model of price (Figure 11; paragraphs [0009]-[0010]; paragraphs [0076]-[0098]; paragraph [0135]; paragraph [0140]; paragraph [0143]). It would have been obvious to one of ordinary skill in the art to modify the invention of Takriti ‘402 such that it determines a stochastic distribution based on an autoregressive

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moving average model of price, as disclosed by Olavson et al., since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

15. **As per claim 2**, Takriti '402 further discloses the said electric power generating plan and said electric power trading plan are presented in time-series forms (Takriti '402: Figures 9A, 9B, and 11).

16. **As per claim 3**, Takriti '402 further discloses the uncertainty factors include variances of electric power demand (Takriti '402: Figure 11).

17. **As per claim 4**, Takriti '402 further discloses the said uncertainty factors include variances of unit price of fuel to be used for power generators (Takriti '402: Figure 2, "112"; Figure 3, see fuel price per MMBTU).

18. **As per claim 5**, Takriti '402 further discloses said uncertainty factors include variances of unit price of electric power to be traded (Takriti '402: Figure 3, see price per MWH for forecasted trades).

19. **As per claim 6**, Takriti '402 discloses in a planning system that makes plans of electric power generation and electric power trade, a computer implemented method for an electric power generating plan and an electrical power trading plan comprising the steps of: determining a stochastic distribution of uncertain factors included in an expected balance generated from said electric power generating plan and said electric power trading plan (Takriti '402: col. 4, lines 58-67 - col. 5, lines 1-19), and presenting

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said stochastic distribution of uncertain factors in a time-series form (Takriti '402: Figures 9A, 9B, and 11) and a chart that gives a time axis for an axis and expected values and variances of said stochastic distribution for another axis (Takriti '402: Figures 9A, 9B, and 11 - Figure 9 discloses load forecasts (expected values). Figure 11 discloses different scenarios, which indicate variances of values as shown on the y-axis. It would have been obvious for one skilled in the art at the time of the invention to have combined the information of Figures 9 and 11 into one chart for the advantage of conveniently organizing data into one graph.).

20. Takriti '402 does not disclose wherein said electric power generating plan and the electric power trading plan and said stochastic distribution are presented in a first chart that gives a time axis for an axis, and generator power output and contracted electric power for the other axis, the first chart including an interruption term of power supply regarding to maintenance inspection and a term of output restriction; and determining a stochastic distribution based on an autoregressive moving average model of price.

21. lino discloses wherein said electric power generating plan and the electric power trading plan and said stochastic distribution are presented in a first chart that gives a time axis for an axis, and generator power output and contracted electric power for the other axis (lino: Figure 7F - The Examiner interprets E_{gen} and E_{load} to be generator power output and contracted electric power respectively.) and a chart including an interruption term of power supply regarding to maintenance inspection and a term of output restriction (lino: Figure 6B, "Plant Shutdown"). It would have been obvious to

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one of ordinary skill in the art at the time of the invention to have combined the data of Figures 6B and 7F in one chart for the advantage of conveniently organizing data into one graph.).

22. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Takriti '402 to have included wherein said electric power generating plan and the electric power trading plan and said stochastic distribution are presented in a first chart that gives a time axis for an axis, and generator power output and contracted electric power for the other axis, the first chart including an interruption term of power supply regarding to maintenance inspection and a term of output restriction as disclosed by lino for the advantage of conveniently representing the power generating plan data and electric power trading plan data in a chart form.

23. Takriti '402 in view of lino does not disclose determining a stochastic distribution based on an autoregressive moving average model of price.

24. Olavson et al. discloses determining a stochastic distribution based on an autoregressive moving average model of price (Figure 11; paragraphs [0009]-[0010]; paragraphs [0076]-[0098]; paragraph [0135]; paragraph [0140]; paragraph [0143]). It would have been obvious to one of ordinary skill in the art to modify the invention of Takriti '402 such that it determines a stochastic distribution based on an autoregressive moving average model of price, as disclosed by Olavson et al., since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of

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ordinary skill in the art would have recognized that the results of the combination were predictable.

25. **As per claim 7**, Takriti '402 does not disclose receiving designation of an area of blocks where power generator output is presented in said first chart thereof, and presenting power generation volume, and power generator start stop term, in date output pattern and information of price variation of said fuel to be used.

26. lino further discloses the steps of: receiving designation of an area of blocks where power generator output is presented in said first chart thereof (lino: Figures 7F and 7H), and presenting power generation volume, and power generator start stop term, in date output pattern and information of price variation of said fuel to be used (lino: Figure 6B, see plant shutdown; Figures 7F and 7H; Figure 12D, see fuel unit price).

27. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Takriti '402 in view of lino and further in view of Olavson et al. to have included receiving designation of an area of blocks where power generator output is presented in said first chart thereof, and presenting power generation volume, and power generator start stop term, in date output pattern and information of price variation of said fuel to be used as disclosed by lino for the advantage of providing a system and method that will increase the efficiency of electric power production so as to contribute to the protection of the environment (lino: col.1, lines 40-42).

28. **As per claim 9**, Takriti '402 further discloses receiving designation of an area of blocks where in-trade electric power is presented in said first chart thereof (Takriti '402:

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Figure 3, “see Forecasted Trades for October 15, 1996”; Figure 11), and presenting trade unit price, trade volume and in-date supply pattern (Takriti ‘402: Figure 3, “see Forecasted Trades for October 15, 1996”).

29. **As per claim 10**, Takriti ‘402 further discloses receiving designation of an area of blocks where in-trade electric power is presented thereof (Takriti ‘402: Figures 9A and 9B), and presenting expected values and variances of both unit price and volume of electric power to be traded for a term that said designation appoints (Takriti ‘402: Figure 3, “see Forecasted Trades for October 15, 1996”, see the varying prices per MWH).

30. **As per claim 11**, Takriti ‘402 further discloses receiving a term to be specified in said time axis, receiving a selection of an expanded scale or an shrunk scale of date or time zone of said term to be presented, and presenting a chart composed on a time axis defined in said expanded scale or said shrunk scale (Takriti ‘402: Figures 9A, 9B, and 11 – The Examiner notes, it is basic knowledge of one skilled in the art to shrink or expand the scale of a chart axis accordingly. The applied reference has been interpreted and applied assuming basic knowledge of one of ordinary skill in the art. According to *in re Jacoby*, 135 USPQ 317 (CCPA 1962), the skilled artisan is presumed to know something more about the art than only what is disclosed in the applied references. In *In re Bode*, 193 USPQ 12 (CCPA 1977), every reference relies to some extent on knowledge of persons skilled in the art to complement that, which is disclosed therein.).

31. **As per claims 13 and 14**, Takriti ‘402 discloses a planning method and computer readable recording medium that has a function for planning computer

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equipment that makes electric power generating plan and electric power trading plan comprising the steps of: determining a stochastic distribution due to uncertain factors regarding to a balance caused by electric power generation and electric power trade (Takriti '402: col. 4, lines 50-67 – col. 5, lines 1-19), and presenting said stochastic distribution in a time-series form (Takriti '402: Figures 9A, 9B, and 11).

32. Takriti '402 does not disclose wherein said uncertain factors are prediction errors caused by annulment of the electrical power trading plan; and determining a stochastic distribution based on an autoregressive moving average model of price.

33. lino discloses wherein said uncertain factors are prediction errors caused by annulment of the electrical power trading plan (lino: col. 14, lines 31-41 – lino discloses in-trouble surplus energy calculating means 48 that calculates the surplus energy conditions which can satisfy conditions that the total electricity generation quantity is larger than the electricity generation demand, which suggests a prediction error.

Furthermore, the phrase “machine troubles” suggest that the power company may be inoperable, which implies that the power company may not be able to fulfill the energy demand recited in an energy-trading plan. If this is the case, it is possible that the energy-trading plan is annulled.).

34. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method and computer readable recording medium of Takriti '402 to have included wherein said uncertain factors are prediction errors caused by annulment of the electrical power trading plan as disclosed by lino for the advantage of providing a system and method that will increase the efficiency of

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electric power production so as to contribute to the protection of the environment (Iino: column 1, lines 40-42).

35. Takriti '402 in view of Iino does not disclose determining a stochastic distribution based on an autoregressive moving average model of price.

36. Olavson et al. discloses determining a stochastic distribution based on an autoregressive moving average model of price (Figure 11; paragraphs [0009]-[0010]; paragraphs [0076]-[0098]; paragraph [0135]; paragraph [0140]; paragraph [0143]). It would have been obvious to one of ordinary skill in the art to modify the invention of Takriti '402 such that it determines a stochastic distribution based on an autoregressive moving average model of price, as disclosed by Olavson et al., since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

37. Claims 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takriti, U.S. Patent No. 6,021,402 in view of Iino, U.S. Patent No. 5,873,251 in view of Olavson et al. and further in view of Takriti et al., U.S. Patent No. 5,974,403.

38. **As per claim 8**, Takriti '402 does not disclose receiving a designation of an area of blocks where an interruption term of power supply regarding to a maintenance inspection term and a restriction term of generator output is presented in said first step thereof, and presenting said interruption term of power supply regarding to maintenance

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inspection, said restriction term of generator output or a generator output to be suppressed.

39. lino discloses receiving a designation of an area of blocks for an interruption term of power supply (lino: Figure 6B, see plant shutdown) and a restriction term of generator output is presented in said first step thereof (lino: Figure 6B; col. 10, lines 33-37), and presenting said interruption term of power supply, said restriction term of generator output or a generator output to be suppressed (lino: Figure 6B; col. 10, lines 33-37).

40. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Takriti '402 in view of lino and further in view of Olavson et al. to have included receiving a designation of an area of blocks for an interruption term of power supply and a restriction term of generator output is presented in said first step thereof, and presenting said interruption term of power supply, said restriction term of generator output or a generator output to be suppressed as disclosed by lino for the advantage of providing a system and method that will increase the efficiency of electric power production so as to contribute to the protection of the environment (lino: col. 1, lines 40-42).

41. Takriti '402 in view of lino and further in view of Olavson et al. does not disclose the interruption term of power supply results from maintenance inspection.

42. Takriti '403 discloses the interruption term of power supply results from maintenance inspection (Takriti '403: col. 5, lines 15-21).

43. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Takriti '402 in view of lino and

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further in view of Olavson et al. to have included the interruption term of power supply results from maintenance inspection as disclosed by Takriti '403 for the advantage of providing a tool for forecasting the spot price of electric power and the amount of power that may be traded in a market (Takriti '403: column 3, lines 25-28).

44. **As per claim 12**, Takriti '402 further discloses determining a new said stochastic distribution, and presenting the said new stochastic distribution in a time-series form (Takriti '402: Figures 9A, 9B, and 11).

45. Takriti '402 does not disclose receiving said generator output, a term to be specified in said time axis, said interruption term of power supply regarding to maintenance inspection, said term of output restriction.

46. lino discloses receiving said generator output (lino: Figures 7F and 7H), a term to be specified in said time axis (lino: Figures 7F and 7H – The Examiner notes, hours are specified in the time axis.), said interruption term of power supply (lino: Figures 6B, see plant shutdown), said term of output restriction (lino: Figures 6B, see plant shutdown).

47. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Takriti '402 in view of lino and further in view of Olavson et al. to have included receiving said generator output, a term to be specified in said time axis, said interruption term of power supply, said term of output restriction as disclosed by lino for the advantage of providing a system and method that will increase the efficiency of electric power production so as to contribute to the protection of the environment (lino: col. 1, lines 40-42).

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48. Takriti '402 in view of lino and further in view of Olavson et al. does not disclose the interruption term of power supply regarding maintenance inspection.

49. Takriti '403 discloses the interruption term of power supply regarding maintenance inspection (Takriti '403: col. 5, lines 15-21).

50. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Takriti '402 in view of lino and further in view of Olavson et al. to have included the interruption term of power supply regarding maintenance inspection as disclosed by Takriti '403 for the advantage of providing a tool for forecasting the spot price of electric power and the amount of power that may be traded in a market (Takriti '403: column 3, lines 25-28).

Conclusion

51. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Ibrahim, U.S. Publication No. 2004/0102937, drawn to energy forecasting using autoregressive moving average models.

b. Fan et al., "A Real-Time Implementation of Short-Term Load Forecasting For Distribution Power Systems", IEEE Transactions on Power Systems, Vol. 9, No. 2, May 1994, pgs. 988-994.

c. Papalexopoulos et al., "A Regression-Based Approach to Short-Term System Load Forecasting", IEEE Transactions on Power Systems, Vol. 5, No. 4, November 1990, pgs. 1535-1550.

The Examiner has cited particular portions of the references as applied to the claims above for the convenience of the Applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that the Applicant, in preparing the responses, fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

52. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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53. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATHAN ERB whose telephone number is (571) 272-7606. The examiner can normally be reached on M-F 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Hayes can be reached on (571) 272-6708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NATHAN ERB
Examiner
Art Unit 3628

Nhe

/John W Hayes/
Supervisory Patent Examiner, Art Unit 3628